

# Facilities Quarterly

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY FACILITIES DEPARTMENT NEWSLETTER

OCTOBER  
1996

## NEW 50 COMPLEX SIGNS POINT TO FUTURE

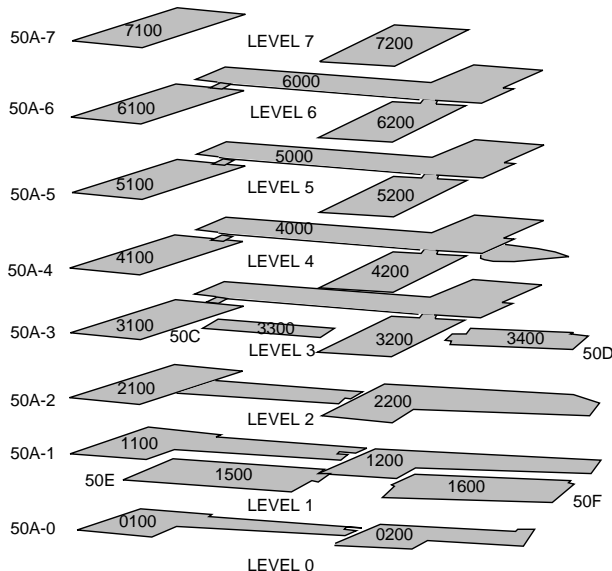
As any seasoned visitor knows, the Building 50 Complex is a Winchester Mystery amalgam of connected buildings, where navigation has—until recently—always been confusing and frustrating. Entering the Building 50 lobby, the visitor encountered three-digit room numbers beginning with “1.” Down the hallway, the numbers quietly changed to four digits starting with a “4,” a subtle hint that you had

entered 50A or 50B. Down one flight of stairs and out the patio doors to 50C or 50D, the room numbers suggested neither a basement nor third floor but were again three-digit numbers beginning with “1.” But all that perplexity is a thing of the past. Now, 50 Complex visitors are greeted by attractive, informative signage that speeds them to their destinations.


The 50 complex receives more visitors than any other building at the Lab, but it has never had an adequate system of intake and orientation to make visitors feel welcome or to get them where they

want to go. Now that the complex is host to a major new user facility, the National Energy Research Scientific Computing Center (NERSC), as well as the Energy Science Network (ESnet) and the new Computing Sciences directorate, making it as inviting as possible to visitors and users is more important than ever.

The new “wayfinding system” takes its place alongside other



50B-7	
50B-6	
50B-5	
50B-4	
50B-3	
50B-2	
50B-1	
50B-0	



**50 COMPLEX  
ROOM RENUMBERING**

1ST DIGIT = LEVEL  
2ND DIGIT = BUILDING:

50	= 0
50A	= 1
50B	= 2
50C	= 3
50D	= 4
50E	= 5
50F	= 6

3RD & 4TH  
DIGITS = ROOM

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## Stores Upgrades Inventory System

With the objective of streamlining operations and improving customer service, Facilities Stores is in the process of implementing a new inventory management system consisting of new business practices as well as new technology.

The changes focus on keeping better tabs on the more than 30,000 items stocked in Stores' Building 78 and offsite locations. In the past, inaccuracies have crept in because transactions—both issues and returns of stores items—have been documented improperly or have been lost or delayed during data handling and processing.

With respect to documentation problems, says Stores Manager George Towns, "We have been lax in identifying customer account numbers and ID

numbers. This has caused problems in inventory alignment." New procedures will require customers to provide identification and an account number at the time of the transaction, thereby helping ensure that the proper adjustment is made to inventory levels.

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## STORES

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Also to be replaced is the existing, antiquated data processing system. This system uses punchcard forms, called issue forms, that are filled out by hand by stores personnel to record the Stores part number, customer ID, and account information for each transaction. Once a week, issue cards are sent to a local subcontractor for keypunching and

transfer of data to magnetic tape. About three days later, the tapes containing the data arrive at Berkeley Lab Information Systems and Services (ISS) for entry into the general ledger. Once a month, stores receives a printout and the data are posted to Toolkit.

In addition to being slow, the existing system is error-prone, allowing misprints, inaccurate and incomplete entries, keypunching mistakes, and

data transfer errors. The resulting inaccuracies have affected both Stores, through lost transactions and reworking of errors, and customers, through inaccurate reports on parts availability, delivery problems, and other inconveniences and delays.

The new system uses Maximo® client/server software to manage Stores' inventory database. Maximo keeps track of stocked and non-stocked items, indicates when stock falls below user-defined minimums, creates purchase requisitions to restock items, and tallies parts received. To speed the process of data entry and reduce error, stores personnel will use laser scanners to read part numbers from bar-codes affixed to items, bins, and shelves. The database's validation process will ensure that entries meet all constraints before they can be committed. This means that errors and missing entries will be corrected before the transaction is completed, rather than weeks later.

Plans are also in place to make Stores inventory data accessible on the Web through the Integrated Reporting and Information Systems (IRIS), allowing customers to find out if an item is in stock or look at a history of charges on a specific account.

The new Stores inventory control system promises to reduce the effort needed to maintain accurate inventories, speed up the order process, provide more accurate delivery service, and expedite the return processing of distressed items. It will also provide more accurate data support for performance indicators, a valuable tool for further improvement in service.

Implementation of the new Stores system is now under way, with startup scheduled for early November. For more information, please contact George Towns at extension 5020.



### FROM THE FACILITIES MANAGER...

Well, we made it through FY 1996. There were times, I am sure, that each of us doubted that we could take on one more job. But, we always did; and completed it as we said we would. We start the new year with several old problems solved, like the leaks in 70A walls, and exterior walls on 50, 70 and 70A painted. Also painted are our

shuttle buses, complete with the new logo and laboratory name. New bus stop signs are installed both on- and off-site; and interior signs have been installed in the 50 complex. There were less obvious things as well; such as restoring the weld shop crane to rated capacity. We completed Building 85 and even added a modular office building to it. Also completed were Perseverance Hall and a new parking lot next door.

First estimates indicate that our performance measures rating will increase for the second year in a row. We now have a five-year maintenance plan designed to work off the backlog, both by completing outstanding deferred maintenance and completing work before it becomes backlog. A big plus this past year was the acquisition of facilities maintenance software. Stores will be the first application to come on-line November 4. We will then proceed to implement the maintenance and the project scheduling modules. New Pentium® PCs have been purchased and are being installed to be ready as applications come on-line. This will also begin our switch from the an Apple® platform to a PC-based platform.

This past year was a difficult one and Facilities not only met the challenge, but set new standards of performance while doing so. Each of us should be rightfully proud of the work we did.

*Bob Camper*

## FACILITIES DEPARTMENT

Facilities provides Berkeley Lab with a full range of architectural and engineering, construction, and maintenance services for new facilities, and modification and support of existing facilities.

Architectural and engineering services include facility planning, programming, design, engineering, project management, and construction management. Maintenance and construction functions include custodial, gardening, and lighting services; operation, service, and repairs or replacements to equipment and utility systems; and construction of modifications, alterations, and additions to buildings, equipment, facilities,

and utilities. Additional services include bus and fleet management, mail distribution, and the logistics functions of stores distribution and property disposal.

Ongoing Facilities activities include renewal and upgrade of site utility systems and building equipment; preparation of environmental planning studies; in-house energy management; space planning; and assurance of Laboratory compliance with appropriate facilities-related regulations and with University and DOE policies and procedures.

The Work Request Center expedites facility-related work requests, answers questions, and provides support for facility-related needs.

## FOCUS ON SERVICE: Hoist and Crane Office Gives Other Labs a Lift

Over 70 percent of industrial accidents involve material handling equipment. At Berkeley Lab, which has 225 cranes and hoists, this statistic is taken very seriously. So seriously, in fact, that the Laboratory has compiled the best materials handling safety record of all Department of Energy facilities—with no major incidents in over four years—and has been called on by DOE to assist other labs in setting up their programs.

In large part, Berkeley Lab's exemplary safety record is the work of the Facilities Mechanical Group's Hoist and Crane Office, headed by Peter Neubauer. The Hoist and Crane Office has overall responsibility for the safety of the Lab's crane/hoist operations.

This includes training crane operators, inspecting and maintaining equipment, providing oversight, and consulting on critical lifts. In addition, the high regard in which DOE holds the Berkeley Lab Hoist and Crane Program has led to several consulting assignments for Neubauer at other DOE Facilities.

Operator training is the key to the success of the program. All crane/hoist operators must take both classroom and practical training every three years. This training, although an EH&S program, is carried out by Hoist and Crane Office personnel. Training conforms with all DOE, OSHA, Cal-OSHA and ANSI rules, and is tailored to the

type of equipment that individual operators are using— from the ALS bridge crane, which can hoist 15,000-kg shielding blocks, to small hoists in shops and labs sitewide.

Coursework covers such topics as completing daily inspection tags, how to interpret proof load tags on cranes, use of secondary lifting equipment such as eyebolts, strongbars, and slings, and how to verify the weight of a load, how to verify the strength of a load's attachment points, find its center of gravity, and stop it from swinging. The practical portion of the training includes an exam in which the trainee must

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## COMPLIMENTS

- Human Genome Center Director Mike Palazzolo writes, "I have just moved into Building 64 with part of the Sequencing effort from the Genome Center. The parts of the building that we moved into are really quite beautiful." John Musante managed the Building 64 remodel.
- Ron Kolb writes that the new exhibit in the Building 50 lobby "looks fantastic and continues to get rave reviews." Small Projects Group Leader Bill Wu and Architectural's Kathie Milano were responsible for installing new carpet, and design and fabrication of the exhibit cases.
- Thanks to the work of IHEM's Antonia Reaves, Joy Lofdahl of Nuclear Science is spending less time handling cost transfers for her division's electrical usage. Antonia invites others wishing to simplify their energy billings to contact the Work Request Center.

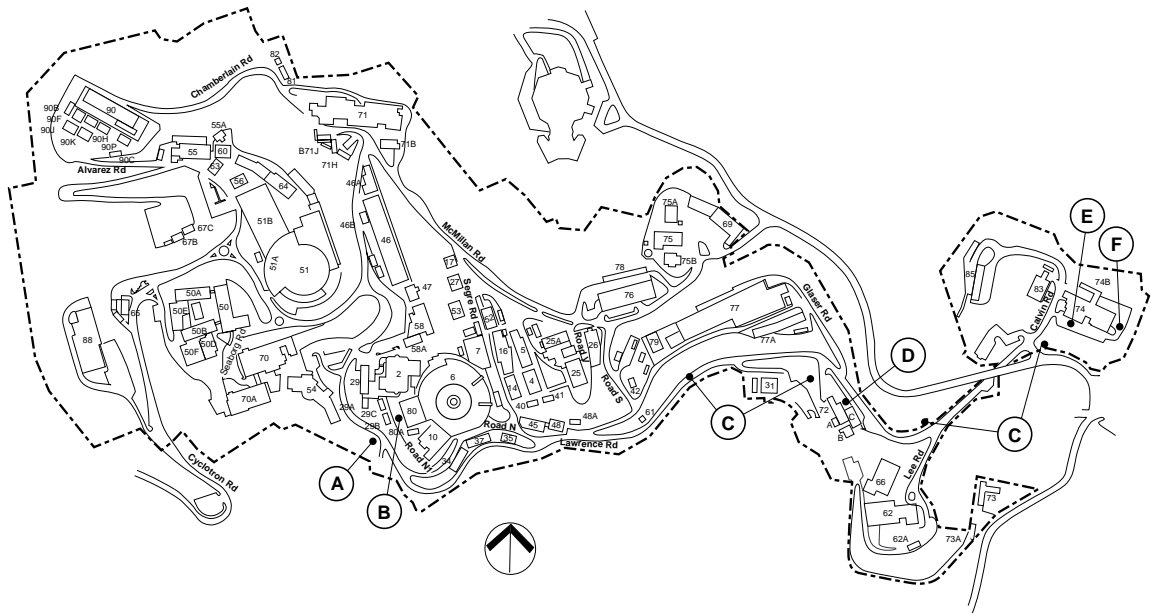
## WORK REQUEST CENTER

Telephone	6274
Fax	6272
Quickmail	Facility
E- or VAX-Mail	lbl-Facilities@lbl.gov
Mailstop	76-222

WRC welcomes questions or comments about the Facilities Quarterly.

# CONSTRUCTION AND YOU

Current construction projects affecting parking or vehicular or pedestrian circulation



Project Contacts. The name in parentheses after each project is the Project Manager (PM) or other person who is responsible for project oversight: coordinating all phases from design through construction; controlling cost, scope and schedule; and ensuring client satisfaction. This person will be happy to answer any questions about the project.

**Bldg 29 Parking Area**

<b>A</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
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Site work continues. About 12 parking spaces between the Big C Substation and the Cafeteria are used for construction. Work will be completed in early October. (John Pickrell, x6710)

**Bldg 6/80 ALS Structural Biology Support**

<b>B</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
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Construction is complete and move-in has started. 20 parking spaces on the west side of Bldg 80 will be restored by mid-October. (Joe Harkins, x7486)

**East Canyon Electrical Safety**

<b>C</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
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The Bldg 66 parking lot will be used for cable storing and pulling operations. (John Pickrell, x6710)

**Bldg 72C Laboratory and Office Addition**

<b>D</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
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The new structure will be located at the north end of Bldg 72C in an existing parking area. Site work will require relocation of an existing office trailer. A few parking spaces will be reserved for the contractor during construction. (Greg Raymond, x4284)

**Bldg 74 Animal Care Facility**

<b>E</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
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Work continues on animal care and treatment room facilities on the 2nd floor of Bldg 74, including walls, doors, plumbing, electrical, flooring, etc. The subcontractor will use 3 spaces next to Bldg 74. (John Pickrell, x6710)

**Bldg 84 Human Genome Laboratory**

<b>F</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
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Construction trailers and activities in this area will continue to impact local parking through mid-1997. Intermittent interruptions to vehicular access will also occur through this period. (Sheree Siemiatkoski, x6088)

## ON THE DRAWING BOARD

*projects in study or conceptual design*

### Blackberry Switching Station Replacement

The Blackberry Switching Station Replacement Project is the last major element in the master plan to rehabilitate the Lab's electrical power system and improve its reliability and safety. The project will upgrade the existing 12-kV power system and use circuit breakers provided in the FY87 improvements to Grizzly Substation. In addition to installing new 12-kV switchgear and cables, the project will eliminate the Big C switching station and switchgear at Bldg 51 and the Bldg 51 substation, and replace outdated 480 V load centers. (Richard Stanton, x6221)

### Mechanical Systems Modernization, Phase 1

This first project in a series will upgrade high-priority equipment in building and support mechanical systems throughout the Laboratory. Replacements in this project will include cooling towers, heating hot water boilers, air fans, steam boilers, air compressors, water chillers, emergency generators, and ancillary piping and control systems. (Pablo Orozco, x5820)

### Bldg 74 Rehabilitation of Building Systems

A conceptual design report is now in preparation for the rehabilitation of Building 74 mechanical and electrical systems, seismic upgrade of the structure, and code upgrade of architectural features. As part of the project, the Building 84 utility center would be expanded to accommodate Building 74 utilities, including relocated mechanical equipment, new electrical switchgear, and standby power. If this project is funded, project design will begin in FY 1999. (Richard Stanton, x6221)

## IN PROGRESS

*funded projects*

### Building 72C Laboratory and Office Addition

Construction of an addition to Bldg 72C began in December 1995 and is scheduled for completion in November 1996. The addition provides three electron microscope laboratories on the first floor and ten supporting offices on the second floor, for a total area of 285 gross square meters (3,067 square feet). Direct access from the existing building is provided by corridor extensions on both levels. (Greg Raymond, x4284)

### Sanitary Sewer Upgrade

Now in pre-design, this project will replace about 1,066 m of underground sanitary sewer lines. The system is over 50 years old, and degeneration has resulted from the past practice of discharging corrosive substances and from unstable geological conditions. Sewer breaks, offsets, obstructions, and undulations caused by ground movement and settling have resulted in excessive maintenance, sewer line cleaning problems, and possible soil contamination. (Pablo Orozco, x5820)

### ALS Structural Biology Support Services

Construction is completed and move-in has started. This project includes a build-out of the Bldg 80 high bay area into a complete second floor and installation of about 900 square meters of lab and office space in this area and the adjacent second floor of the ALS. (Joe Harkins, x7486)

### Bldg 84 Human Genome Laboratory

Concrete has been poured for the building slabs and utility center, and all structural steel has been erected. Work in Fall 1996 will focus on enclosing the facility prior to the winter rains, and utility routing will begin within the building. Located adjacent to Building 74, the Human Genome Laboratory will provide 3800 square meters of space in three stories for state-of-the-art genetics research. (Sheree Siemiatkoski, x6088)

### Energy Conservation Upgrades

Expansion of the Energy Monitoring and Control System (EMCS) continues. This system provides central monitoring and control of space-conditioning systems, including boilers, hot water pumps, air-handlers, and cooling towers. (Chuck Taberski, x6076)

### Bldg 29 Parking Area

Work is in progress for the Bldg 29 parking area, which will provide about 42 parking spaces in the heavily populated central Lab area. The project includes site preparation, engineered fill placement, drainage, paving, lighting, guardrails, hydro-seeding, fence relocation, and striping. Work will be completed in early October. (John Pickrell, x6710)

## 50 Complex

*continued from page 1*

recent improvements, including new exterior paint, fire and safety upgrades, interior painting and remodeling, and a refurbished lobby. Informative, attractive, strategically placed signage, the product of months of careful planning and design, allows the user to see the 50 Complex as one continuous, whole structure instead of seven separate buildings.

Floor and room numbering now adhere to a system based on eight complex-wide levels, rather than on the floor numbers of individual buildings. Each horizontal plane of the complex comprises one level; for instance, floors 50-1, 50A-4, and 50B-4 comprise Level 4; and 50A-3, 50B-3, 50C, and 50D comprise Level 3.

Where necessary, room numbers have been changed to correspond with this scheme and to provide further navigational information. All room numbers

now have four digits, which are assigned according to the following scheme:

- First digit: Level (0—7)
- Second digit: Building (50 = 0, 50A = 1, 50B = 2, 50C = 3, 50D = 4, 50E = 5, 50F = 6)
- Third and fourth digits: Room number.

For example, room 2165 is on level 2 of 50A.

Fortunately, most room numbers in 50A and 50B already followed this convention, minimizing problems resulting from renumbering. The building numbers, while no longer needed for addresses, will be retained for other institutional purposes.

The other major element in the wayfinding system is the new signage. Highly visible and of attractive, color-coded design, directory signs are posted in the Building 50 lobby and at main stairs, elevators, and handicapped entrances. These signs include floor plans

and identify major destinations such as conference rooms, division offices, the main library, the Director's office, and the Directorates. Signs are oriented so that the top of the floor plan corresponds with the direction in which the viewer is looking. Other signs are located at main corridor intersections, the entrance to the Laboratory Directorate, and on the way to specific rooms. The signs also provide American Disabilities Act (ADA)-compliant raised letters and Braille, positioned at a consistent height from the floor and consistent distance from elevator doors and the latch side of office doors.

The 50 complex project is only the first application of the new interior signage system. Look for new signs in other selected facilities in the coming months.

Laura Chen of Facilities Planning is project manager for the interior signage project. If you have questions or comments please give her a call at extension 6771 or write to LJChen@lbl.gov.

## Focus on Service

*continued from page 3*

demonstrate acceptable handling of the equipment he or she will be using. Training also covers forklifts and aerial work platforms.

Although the Lab has about 350 crane and hoist operators, they report to their respective departments and divisions, not to the Hoist and Crane office. In addition, all but six of these operators are classified as "incidental" operators, meaning that their use of cranes is an adjunct to their principal work. As a result, oversight is a major part of the Hoist and Crane Office's responsibility. Inspection of critical sites around the Lab, including the Lab's own equipment and that of subcontractors working onsite, is carried out on a continuing basis. In addition, all cranes and hoists undergo visual inspection every three months, at which time their documentation is

checked. A yearly service inspection ensures that the equipment is in good working order, and, every four years, all hoists and cranes undergo a proof-load test.

Finally, the Hoist and Crane Office functions as the engineering consultant for critical lifts, for which a failure could have serious safety consequences or result in serious property losses.

In addition to his onsite responsibilities, Neubauer has been called on by DOE to replicate Berkeley Lab's successful programs at other sites, including Lawrence Livermore Laboratory's main site and Site 300, the Stanford Linear Accelerator Center (SLAC), and the Nevada Test Site's Device Assembly Facility (DAF). The work at DAF involves cranes working in clean room conditions and under strict fail-safe requirements—a definite vote of confidence from DOE for the Berkeley Lab program.



*The ALS bridge crane in action.*

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